

Notice of Allowability

Application No.

10/729,104

Examiner

Gary Chin

Applicant(s)

PRAKAH-ASANTE ET AL.

Art Unit

3661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed 8-9-07.
2. ☒ The allowed claim(s) is/are 1-4, 7-13 and 15-18.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


GARY CHIN
PRIMARY EXAMINER

AMENDMENTS TO THE CLAIMS

O.K. to enter!
g.c.
In the set of claims within the Application, please retain, amend, or cancel each claim as hereinafter indicated.

1. (Currently Amended) A safety system ~~for a vehicle~~ as in claim 15, said safety system further comprising:

an occupant sensor located onboard said vehicle and operable to generate an occupant characteristic signal;

~~a plurality of discretized patch sensors coupled to a peripheral area of said vehicle and operable to generate at least one collision detection signal; and~~

~~a controller coupled to said occupant sensor and said plurality of discretized patch sensors;~~

wherein said controller is coupled to said occupant sensor and operable to determine an occupant status in response to said occupant characteristic signal[.]; ~~determine a collision type in response to said at least one collision detection signal[.];~~ and also perform at least one countermeasure in response to both said occupant status and said collision type.

2. (Currently Amended) A safety system as in claim ~~[[1]]~~ 15, wherein said plurality of collision detection sensors includes discretized patch sensors that are at least partially formed of a poly-vinylidene fluoride material.

3. (Currently Amended) A safety system as in claim ~~[[1]]~~ 15, wherein said plurality of collision detection sensors includes discretized patch sensors that are in a composite form.

4. (Currently Amended) A safety system as in claim ~~[[1]]~~ 15, wherein said plurality of ~~discretized patch~~ collision detection sensors are coupled to a bumper of said vehicle.

5. (Canceled)

6. (Canceled)

7. (Currently Amended) A safety system as in claim ~~[[5]]~~ 10, wherein said collision contact location estimator is operable to determine said collision contact location relative to said plurality of discretized patch sensors in response to values selected from at least one of a plurality of location threshold values, time synchronized comparative magnitude values, and signature values of the collision detection signals.

8. (Currently Amended) A safety system as in claim ~~[[5]]~~ 10, wherein said collision contact location estimator is operable to determine said collision contact location relative to said plurality of discretized patch sensors in response to at least one collision confirmation threshold value.

9. (Currently Amended) A safety system ~~for a vehicle~~ as in claim 15, said safety system further comprising:

an occupant sensor located onboard said vehicle and operable to generate an occupant characteristic signal;

~~a plurality of collision detection sensors coupled to the periphery of said vehicle and operable to generate at least one collision detection signal; and~~

wherein ~~[[a]]~~ said controller is coupled to said occupant sensor, and said plurality of collision detection sensors and comprising (i) a collision contact location estimator for determining a collision type, which includes determining a collision severity and a collision contact location on said vehicle, in response to said at least one collision detection signal, and (ii) a coordinated device activation system ~~for performing~~ is operable to perform at least one countermeasure in response to both said occupant characteristic signal and said collision type.

10. (Currently Amended) A safety system as in claim [[9]] 15, wherein said plurality of collision detection sensors are in the form of a plurality of discretized patch sensors.

11. (Currently Amended) A safety system as in claim [[9]] 15, wherein said plurality of collision detection sensors are at least partially formed of a poly-vinylidene fluoride material.

12. (Currently Amended) A safety system as in claim [[10]] 15, wherein said plurality of ~~discretized patch~~ collision detection sensors are in a composite form.

13. (Currently Amended) A safety system as in claim [[9]] 15, wherein said plurality of collision detection sensors are non-accelerometer type sensors.

14. (Canceled)

15. (Previously Presented) A safety system for a vehicle, said safety system comprising:

a plurality of collision detection sensors coupled to the periphery of said vehicle and operable to generate at least one collision detection signal; and

a controller coupled to said plurality of collision detection sensors and comprising (i) a collision contact location estimator for determining a collision type, which includes determining a collision severity and a collision contact location on said vehicle, in response to said at least one collision detection signal, and (ii) a coordinated device activation system for performing at least one countermeasure in response to said collision type;

wherein said collision contact location estimator, in determining said collision severity, is operable to generate at least one collision severity signal corresponding to

approximately $K_i V_i (1 - e^{-\tau t})$, in which V_i is voltage output from the i^{th} collision detection sensor, K_i is an adaptive gain, and τ is an adjustable filter time-constant.

16. (Currently Amended) A safety system as in claim [[9]] 15, wherein said collision contact location estimator is operable to determine said collision contact location relative to said plurality of collision detection sensors in response to values selected from at least one of a plurality of location threshold values, time synchronized comparative magnitude values, and signature values of the collision detection signals.

17. (Currently Amended) A safety system as in claim [[9]] 15, wherein said collision contact location estimator is operable to determine said collision contact location relative to said plurality of collision detection sensors in response to at least one collision confirmation threshold value.

18. (Previously Presented) A safety system as in claim 17, wherein said coordinated device activation system is operable to perform said at least one countermeasure based on the contacted area of said vehicle when said collision confirmation threshold value is exceeded.

19. (Canceled)

20. (Canceled)